

COMMUNICATIONS STUDY - ANL



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June 23, 2021

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Project ID: elt269

Overview

Timeline

- DOE VTO request for study – Summer 2020
- Surveyed related studies in September 2020
- Recommended industry workshop prior to additional study
- Impending change of administration ... further delay recommended

Barriers/Challenges

- Lack of consensus on communication pathways and protocols between electric vehicles, the charging infrastructure and utilities
- Standard communication methods are critical to implement Smart Charge Management and Vehicle-Grid Integration ... both enablers for DOE's goals for vehicle electrification.

Budget

- 75K

Collaborators

- DOE Vehicle Technologies Office (VTO) and the Office of Electricity (OE)
- Expert panelists

Objectives

- Identify potential actions by DOE to promote harmonization of vehicle-grid communication as an enabler for smart charge management (SCM) and vehicle-grid integration (VGI)
- Indirectly ... support efficient utilization of resources for charging electric vehicles nationally and promote standard industry practice for implementing SCM with local utilities

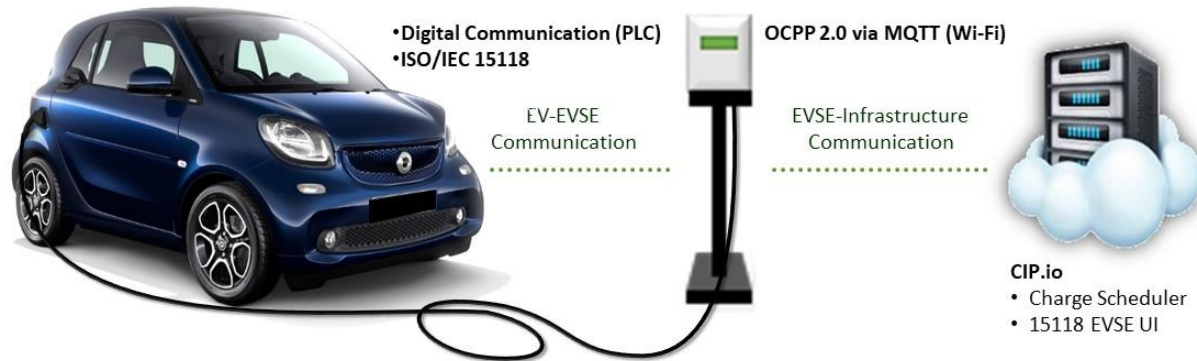


Image is an Argonne example of EV-EVSE-infrastructure communication

- Standards developed by SAE, IEC and ISO are not harmonized
- Vehicle and EVSE OEMs employ different standards by choice; charging networks typically use a combination of standard and proprietary protocols

Approach

Clarify potential of competing standards to support SCM and VGI

Convene workshop with industry stakeholders in the Fall of 2021, hosted by DOE Vehicle Technologies Office and the Office of Electricity

Invite automotive and EVSE OEMs, charging network providers, utilities, and standards developing organizations

- Review results of recent studies and recommendations (e.g., SEPA)
- Review SAE, IEC and ISO standards and efforts to harmonize (e.g., EPRI, et al)
- Review communication methods chosen/implemented by stakeholders
- Identify incompatibilities and consequences ... and opportunities for harmonization
- Recommend potential actions by DOE to facilitate harmonization